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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,064	06/30/2003	Akira Jinzaki	826.1878	7805
21171 7590 09/05/2007 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER HOANG, HIEU T	
			ART UNIT 2152	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,064	JINZAKI, AKIRA	
	Examiner	Art Unit	
	Hieu T. Hoang	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6, 7-18, 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-18 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to communication filed on 07/19/2007.
2. Claims 2-5, 19 and 20 have been canceled.
3. Claims 1, 6-18 and 21 are pending in the application.

Response to Amendment

4. The 35 U.S.C. 112, first paragraph rejection of claim 14 has been withdrawn due to the amendment.
5. The 35 U.S.C. 112, second paragraph rejection of claims 12-14 has been withdrawn due to the amendment.

Response to Arguments

6. Applicant's arguments filed on have been fully considered but found unpersuasive.
7. The first argument is presented in paragraph of page 8 wherein applicants argue that the prior art Nakamura-Zheng-Wingard-ON does not teach a "data transfer available/unavailable flag stored in the broadcast type communication control table storage unit." The examiner respectfully traverses. Refer to Wingard's fig. 6, flag 7, and col. 15 lines 1-16, Wingard discloses a flag that indicates whether data is available ("when the target interface module receives the data from its client, it stores the data in local memory and it drives the indicated flag wire high, indicating to the initiator that the data is now available"), therefore, Wingard's flag 7 reads on a "data transfer

Art Unit: 2152

available/unavailable flag". Furthermore, the flag has to be stored in a memory (of Wingard in the above citation or a table of Nakamura [0076]), reading on a "control table storage unit"

8. The first argument is presented in paragraph of page 8 wherein applicants argue that the prior art combination does not produce predictable result as in the current specification. The examiner respectfully traverses. The computer-electrical art is a technical area that yields substantially predictable results. Furthermore, applicants fail to explain why the prior art combination fails to produce the result as in the specification. The reason to combine the art does not have to be explicitly disclosed in the prior art, instead it can be derived from knowledge of one of ordinary skills in the art at the time of the invention. Take the above example of using a flag for indicating that data is available or not, a flag is a simple 1/0 bit or an on/off, high/low electrical signal that is used to differentiate between two possibilities of a value. One skilled in the art even without the teachings of Wingard would still be motivated to use a flag to signal a party (a receiver of that data for example) whether data is available or not to only transfer data when it is available, because there is no purpose of setting up a connection to transfer data with no data available to the receiver.

Claim Objections

9. Claims 1 and 21 objected to because of the following informalities: claim 21 is a duplicate of claim 1. Canceling claim 21 is suggested as correction.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite: "analyzing a source address in data received from a sender through the network in the form of uni-cast communication." The claims do not recite the purpose of the analyzing. It is implicitly understood that the data is analyzed to see whether it is uni-cast or not.

12. Claims 1 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims recite "analyzing a source address in data received from a sender through the network in the form of uni-cast communication". However, the specification recites "unit 2 analyzes whether data received from a sender through the network in the form of unicast communication, is broadcast type communication" (p. 6 last paragraph). Therefore, whether data is unicast is already given, unit 2 only receives unicast data and determines whether it is broadcast. Determining unicast data using a source address is not enabled nor supported by the current specification.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 2002/0194367, hereafter Nakamura), in view of what is well known in the art (hereafter ON), further in view of Wingard et al. (US 5,948,089, hereafter Wingard).

15. For claim 18, Nakamura discloses a broadcast type communication system conducting broadcast type communications, comprising:

- a transmitter device transmitting broadcast type communication data to a receiver through a network in the form of uni-cast communication (fig. 16, content server broadcasts data using unicast); and
- a broadcast type communication control table storage unit storing an address of a receiver for which the data should be copied and transferred ([0076], a table for conversion, storing addresses of receivers to which data is to be transferred),
- a distribution device provided between a sender and a plurality of receivers, that relays data received from a sender through a network to an addressed receiver

and also copies/transfers the data to one or more receivers other than the address receiver, based on the address of the receiver for which the data should be copied and transferred, if the data is broadcast type communication data (fig. 16, [0074] lines 10-14, unicast broadcast data is routed through a multicast substitute device, non-broadcast data is routed to a network terminating device, data is then sent to a plurality of receivers through connections 24, 25, and 26, data is relayed to a plurality of receivers using multicast; [0076], destination addresses of the receivers are combined for transferring data by multicast to the receivers).

Nakamura does not explicitly disclose copying the data.

However, Official Notice (ON) is taken that it is well known in the art that the process of converting from unicast to multicast of Nakamura inherently includes copying or duplicating data before relaying the data to the receivers.

Nakamura-ON does not disclose each data transfer available/unavailable flag addressed to the receiver in relation to the identifier of the broadcast type communication data; stored in the broadcast type communication control table storage unit.

However, Wingard discloses each data transfer available/unavailable flag addressed to the receiver stored in a memory (fig. 6, col. 15 lines 1-16, flag 7 indicates whether data is available).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Wingard in order to use Wingard's

flag to provide a precise indication once a module has obtained desired data instead of estimating when the desired data is available, which can increase latency (Wingard, col. 14 lines 51-58)

16. Claims 1, 6, 11, 15-17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of ON, further in view of Wingard and Zheng et al. (US 2002/0181400, hereafter Zheng).

17. For claim 1, Nakamura discloses a broadcast type communication data distribution device distributing data in a network, comprising:

- a broadcast type communication data recognition unit analyzing data received from a sender through the network in the form of unicast communication and analyzing whether the data is broadcast type communication data (fig. 16, unicast broadcast data is routed to a multicast substitute device, non-broadcast data is routed to a network terminating device, [0074] lines 10-14, a user broadcasts data using unicast connections to a plurality of host devices); and when one of a plurality of segments of broadcast type communication data is received from the sender ([0074] lines 10-15, broadcast segments to a plurality of host devices is intercepted at the multicast substitute device), further extracting, from the source address control information about a relay and copy/transfer of the received data, based on the analysis of the source address ([0076], relay/copy/transfer based on received unicast addresses);

- a broadcast type communication control table storage unit storing an address of a receiver for which the data should be copied and transferred ([0076], a table for conversion, storing addresses of receivers to which data is to be transferred),
- a copy/transfer unit relaying data to an addressed receiver, transferring the data to one or more receivers other than the addressed receiver or another distribution device through the network (fig. 16, data is then sent to a plurality of receivers through connections 24, 25, and 26. Data is relayed to a plurality of receivers using multicast), based on the address of the receiver for which the data should be copied and transferred if the data is broadcast type communication data ([0078] lines 4-9, checking for receiver address then copy/convert to multicast and transferring to receivers)

Nakamura does not explicitly disclose copying the data.

However, Official Notice (ON) is taken that it is well known in the art that the process of converting from unicast to multicast of Nakamura inherently includes copying or duplicating data before relaying the data to the receivers.

Nakamura-ON does not disclose analyzing a source address in the received data to recognize that multiple data packets are of the same flow (or of broadcast type) and extracting an identifier of that flow.

However, Zheng discloses analyzing a source address in the received data (abstract, a flow is uniquely identified by the flow's identity number in combination with its source address, therefore by inspection of a flow ID, one can know whether two or more packets are of a same flow or not).

Nakamura-ON-Zheng does not disclose each data transfer available/unavailable flag addressed to the receiver in relation to the identifier of the broadcast type communication data; stored in the broadcast type communication control table storage unit.

However, Wingard discloses each data transfer available/unavailable flag addressed to the receiver stored in a memory (fig. 6, col. 15 lines 1-16, flag 7 indicates whether data is available).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard in order to identify a broadcast type multicast transmission using the source address, or the flow identifier included in the data packets as in Zheng's and therefore implement an advantageous relay method as described by Nakamura (Nakamura, fig. 16, substituting unicast broadcast data with multicast data); and also use Wingard's flag to provide a precise indication once a module has obtained desired data instead of estimating when the desired data is available, which can increase latency (Wingard, col. 14 lines 51-58)

18. For claim 21, the claim is rejected for the same rationale as in claim 1.

19. For claim 6, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 1. Nakamura-ON-Zheng-Wingard further discloses when said broadcast type communication data recognition unit extracts information indicating the addition of a receiver, which is control information, said broadcast communication control table

storage unit adds the destination address of the data as a receiver address in relation to the identifier of the received data (Nakamura, [0078] lines 4-15, destination address is added to a list of receivers' addresses for the multicast session).

20. For claim 11, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 1. Nakamura-ON-Zheng-Wingard further discloses said copy/transfer unit relays or copies/transfers all segments of data received from the sender, including the control information extracted by the broadcast type communication data recognition unit (Nakamura, [0076]).

21. For claim 15, Nakamura-ON-Zheng discloses the invention substantially as in claim 1. Nakamura-ON-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is a private address of a MAC address in an Ethernet, and recognizes data in a layer 2 network (Nakamura, fig. 4, layer 2 MAC address, MAC is a standard OSI layer 2 or data-link layer).

22. For claim 16, Nakamura-ON-Zheng discloses the invention substantially as in claim 1. Nakamura-ON-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is an Internet protocol address, and recognizes data in a layer 3 network (Nakamura, fig. 3, layer 3 IP address, IP is an OSI layer 3 or network layer).

Art Unit: 2152

23. For claim 17, Nakamura-ON-Zheng discloses the invention substantially as in claim 1. Nakamura-ON-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is a port number of a user data protocol or a transmission control protocol, and recognizes data in a layer 4 network (TCP is a standard OSI layer 4 or transport layer).

24. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng-Wingard, as applied to claim 5, in view of Williams (US 7,080,135).

25. For claim 7, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 1. Nakamura-ON-Zheng-Wingard does not disclose when said broadcast type communication data recognition unit extracts information indicating the deletion of a receiver, which is control information, said broadcast communication control table storage unit deletes an entry having the destination address of the data as a receiver address, in relation to the identifier of the received data.

However, Williams discloses the same (fig. 7, a register receives a delete entry command, then looks up the entry and deletes the corresponding entry from the address table).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard with the teachings of Williams in order to delete address entries from the address table to minimize

congestion and increase operating performance of the network (Williams, col. 9 lines 22-25)

26. For claim 8, the claim is rejected for the same rationale as in claim 7.

27. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng-Wingard, as applied to claim 5, in view of Tzeng et al. (US 2003/0212814, hereafter Tzeng).

28. For claim 9, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 1. Nakamura-ON-Zheng-Wingard further discloses when said broadcast type communication data recognition unit extracts a control information, said broadcast communication control table storage unit sets the data transfer available/unavailable flag of a receiver address that matches the destination address of the received data, to "transfer unavailable" (Wingard, fig. 5, item 540).

However, Tzeng discloses that the information is indicating the stoppage of data distribution to a receiver ([0032], a pause frame pauses unicast transmission)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard and Tzeng in order to stop, resume unicast transmission on the transmission side to avoid congestion in the network (Tzeng, [0005])

29. For claim 10, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 1. Nakamura-ON-Zheng-Wingard further discloses when said broadcast type communication data recognition unit extracts a control information, said broadcast communication control table storage unit sets the data transfer available/unavailable flag of a receiver address that matches the destination address of the received data, to "transfer available" (Wingard, fig. 5, item 540).

However, Tzeng discloses that the information is indicating the re-start of data distribution to a receiver ([0030], an unpaue frame resumes the unicast transmission)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard and Tzeng in order to stop, resume unicast transmission on the transmission side to avoid congestion in the network (Tzeng, [0005])

30. Claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng-Wingard, as applied to claim 5, in view of what is well-known in the art.

31. For claim 12 and 13, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 1. The claims are rejected for the same rationale as in claim 11.

Official notice is taken that scrambling information is a well-known technique in the art of Network Security (see e.g. US 2002/0138721, abstract).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to scramble information before sending it out to a destination, the scrambled information can then be unscrambled to be used at the destination in order to provide extra security for network transactions.

32. For claim 14, Nakamura-ON-Zheng-Wingard further discloses the data received from the sender includes no data to be finally provided for a receiver (same rationale as in claim 12 and 13, because the data has been scrambled, there is no data to be finally provided for a receiver)

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Bageja. US 7,082,142. Deliver content in a unicast/multicast manner.
- She et al. US 7,133,922. Streaming of data.
- Cerf et al. US 6,418,138. Internet radio communication system.

34. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

Art Unit: 2152


shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HH/
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8/30/7